

WHAT IS CLAIMED IS:

1. A data transmitter for carrying out data communication with a data receiver via a plurality of networks with different characteristics using a higher level protocol common to the plurality of networks and a lower level protocol inherent in each of the plurality of networks, said data transmitter is characterized by:

receiving error occurrence conditions in the networks from said data receiver, and variably controlling a packet length of the higher level protocol common to the plurality of networks in response to the error occurrence conditions in the networks.

2. The data transmitter according to claim 1 characterized in that when it variably controls the packet length of the higher level protocol common to the plurality of networks in response to the error occurrence conditions in the networks, said data transmitter variably adjusts the packet length of the higher level protocol in accordance with to a structure and characteristics of data to be transmitted.

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3. A gateway for repeating data communication between a data transmitter and a data receiver via a plurality of networks with different characteristics using a higher level protocol common to the plurality of networks and a lower level protocol inherent in each of the plurality of networks, said gateway is characterized by:

receiving error occurrence conditions in the networks from said data receiver, and variably controlling a packet length of the higher level protocol common to the plurality of networks in response to the error occurrence conditions in the networks.

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4. The gateway according to claim 3 characterized in that it variably controls the packet length of the lower level protocol different in each network to a packet length adaptable to the error conditions of each network.

5. The gateway according to claim 3 characterized in that the error occurrence conditions in the networks received from said data receiver include error occurrence conditions in the networks transmitted from another gateway at an interface with another network.

6. The gateway according to claim 4 characterized in that the error occurrence conditions in the networks received from said data receiver include error occurrence conditions in the networks transmitted from another gateway at an interface with another network.

7. A data transceiver for carrying out data communication with another data transceiver via a plurality of networks with different characteristics using a higher level protocol common to the plurality of networks and a lower level protocol inherent in each of the plurality of networks, said data transceiver is characterized by:

extracting error occurrence conditions in the networks when receiving data from said another data transceiver, and variably controlling a packet length of the higher level protocol common to the plurality of networks in response to the error occurrence conditions in the networks extracted.

8. A data communication method of carrying out data communication between a data transmitter and a data receiver via a plurality of networks with different characteristics using a higher level protocol common to the plurality of networks and a lower level protocol inherent in each of the plurality of networks, said data communication method is characterized by:

variably controlling a packet length of the higher level protocol common to the plurality of networks in response to error occurrence conditions in the networks.